



component, etc. -- a hole -- inside may be impregnated in an impregnating constituent and an eye stop may be needed for it. making it this bear the pressure of a fluid or gas at the time of article use, raising density, raising intensity, or preventing corrosion \*\*\*\* -- etc. -- it is required for a sake, and also required as a surface treatment for paint or plating.

[0003]As this kind of an impregnating constituent, former and polymerization nature (meta) acrylic ester, The aversion hardening type thing etc. which make the main ingredients the heat hardening type thing which makes the azobis nitril as a polymerization initiator the main ingredients or polymerization nature (meta) acrylic ester, and the organic peroxide as a polymerization initiator are known. \*\* hole processing of an article is performed as follows using these constituents. First, after placing a porosity article into a tank, making the inside of a tank into a vacuum and removing air from a hole, said constituent is poured in into a tank and a constituent is poured in into the hole of an article by impregnating with an article into a constituent and returning it to normal pressure. Next, a porosity article is picked out from a tank, after washing and removing the excessive constituent adhering to this surface, warm water is made to immerse, the constituent in a hole is stiffened, and a \*\* hole is completed.

[0004]It impregnates with a layered product into an impregnating constituent, and between laminations, also in adhesion of a metal plate layered product, said constituent is poured in, and it performs impregnating processing. [ as well as the above-mentioned ]

[0005]In impregnating processing of this kind, it is easy to mix metal powder and a metal ion into an impregnating constituent from the metal which is a thing to be impregnated. A metal ion generates RAJIKARU by an oxidation-reduction reaction, and since the acrylic ester (meta) in an impregnating constituent is polymerized, it becomes a cause which spoils the preservation stability of an impregnating constituent.

[0006]For this reason, conventionally, radical polymerization prohibition agents, such as hydroquinone and BHT, were added, and the preservation stability of the impregnating constituent was improved. The method of improving preservation stability by adding a chelating agent and supplementing with a metal ion is known for the anaerobic adhesive which made acrylic ester (meta) the main ingredients. (JP,51-20555,B)

[0007]

[Problem(s) to be Solved by the Invention]However, in the case of the former which adds a radical polymerization prohibition agent and improves preservation stability, a radical polymerization prohibition agent improves preservation stability, but cure time of an impregnating constituent is made late and it becomes a cause of curing failure.

[0008]Although preservation stability can be improved in the method of the latter which adds a chelating agent, without spoiling the cure rate of acrylic ester (meta), since a chelating agent is water solubility (meta), it hardly dissolves in acrylic ester. Although improvement of preservation stability has an effect by very little dissolutions of a chelating agent in the case

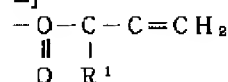
where metal is not contacted, like an anaerobic adhesive till use, (Meta) In the impregnating constituent which makes acrylic ester the main ingredients, since a lot of metal powder and metal ions mix from the metal of a thing to be impregnated, by the conventional water-soluble chelating agent, the effect of improving preservation stability is hardly demonstrated.

[0009]Then, it is in the purpose of this invention providing the impregnating constituent which improved the fault which is excellent in preservation stability and consists in conventional technology in the impregnating constituent which made the main ingredients the acrylic ester used for a seal of a nest or adhesion of a metal plate layered product etc. which is a metaled casting defect (meta).

[0010]

[Means for Solving the Problem]In order to attain the above-mentioned purpose, an oil soluble chelating agent further shown in said constituent at following a or b is made to contain in an impregnating constituent which contains acrylic ester (meta) and a polymerization initiator which can polymerize as the main ingredients according to this invention. A compound in which at least two \*\* of a ethylenediaminetetraacetic acid etherified a child in 2-ethylhexyl alcohol. benzo[ b ] -- doria -- ZORU or its derivative. [0011]

[Detailed Description of the Invention]Hereafter, this invention is explained concretely. Acrylic ester (meta) which is used for this invention and which can be polymerized [Chemical formula 2]

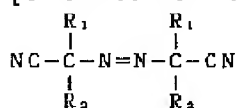


(R<sup>1</sup> is mentioned by the acrylic ester made into an end group, and low-grade ARUKIRU) of H, halogen, and C several 1 - 4, [ as this example of representation ] (Meta) Acrylic acid hydroxyalkyl, a glycidyl (meta) acrylics rate, Ethylene glycol di(metha)acrylate, diethylene GURIKORUJI (meta) acrylate, Triethylene glycol di(metha)acrylate, propyleneglycol di(meth) acrylate, Bird propyleneglycol di(meth) acrylate, TORIMECHI roll propane bird (meta) acrylate, Trimethylolethane tri(metha)acrylate, TETORAMECHI roll methane tetra-(meta)acrylate, (Meta) The polyester (meta) acrylate obtained at the reaction of acrylic acid, glycols, and polybasic acid, The epoxy (meta) acrylate obtained at the reaction of an epoxy compound and acrylic acid (meta), The amide (meta) acrylate which makes amino alcohol react to polybasic acid, makes acrylic acid react subsequently (meta), and is obtained, Urethane (meta) acrylate, acrylic acid (meta) tetrahydrofurfuryl which are produced by reacting to hydroxyalkyl (meta) acrylate and a polyisocyanate compound, (Meta) Although there are acrylic acid dimethylaminoethyl, diethylaminoethyl acrylate (meta), acrylic acid (meta) Ben Jill, acrylic acid (meta) cyclohexyl, etc., it is not necessarily limited to these examples.

[0012]The above-mentioned polymerization initiator is an azonitrile system derivative or organic peroxide. An azonitrile system derivative is a compound which has the following

general formula.

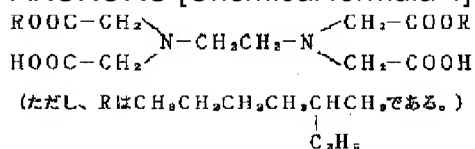
[Chemical formula 3]



(R<sup>1</sup> is the acrylics or n-pentyl which makes an end group low-grade ARUKIRU) of H, halogen, and C several 1 - 4, R<sub>2</sub> Methyl, ethyl, n-propyl, \*\*\*\*- propyl, cyclo propyl, They are Calvo \*\*\*\*- n-propyl, \*\*\*\*- butyl, cyclo butyl, n-pentyl, \*\*\*\*- pentyl, cyclopentyl, cyclohexyl, a phenyl, Ben Jill, P-chloro BENJIRU, or P-nitrobenzyl. 2 and 2'-azobisiso BUCHIRO nitril is mentioned as this example of representation, and an example. To polymerization nature acrylic compound 100 weight section, these loadings are 0.05 to 1 weight section, and are 0.1-0.3 preferably. It is a weight section. As organic peroxide, diacyl peroxide, peroxy ETERU, JIARU kill peroxide, hydroperoxide, Kent peroxide, etc. are mentioned, Among these, especially, it is desirable organic peroxide hydroperoxide or JIARU kill peroxide, and these loadings receive polymerization nature acrylics compound 100 weight section. It is 0.5 to 2 weight section preferably 0.1 to 10 weight section.

[0013]The structural formula which said oil soluble chelating agent etherified the child at least for two \*\* of ethylenediaminetetraacetic acid, and etherified two of four acetic acid machines at least whose \*\* of ethylenediaminetetraacetic acid are specifically children by 2-ethylhexyl

AKUKORU [Chemical formula 4]



benzo[ the oil soluble chelating agent which \*\*\*\*, or ] -- doria -- they are ZORU or its derivative. This amount of addition has 0.01 to 5 preferred weight section to impregnating constituent 100 weight section.

[0014]this invention constituent may contain water-soluble chelating agents other than the above-mentioned ingredient, such as polymerization prohibition agents, such as hydroquinone and BHT, EDTA and 2 Na salt, EDTA, 4 Na salt, etc. further. These loadings are arbitrary adequate amounts.

[0015]

[Function]Since an oil soluble chelating agent is solubility and dissolves in large quantities to the acrylic ester (meta) which can polymerize, even if many metal powder or metal ions mix into an impregnating constituent, this can be removed, and, for this reason, the preservation stability of said constituent can be improved.

[0016]

[Working example] Each combination shown in Table 1 was prepared.

[Table 1]

	配 合 1	配 合 2	配 合 3	配 合 4	比 較 1	比 較 2	比 較 3
2-ヒドロキシエチルメタアクリレート	95	95	95	95	95	95	95
ベンゾイルパーオキサイド (硬化剤)	5	5	5	5	5	5	5
BHT (重合禁止剤)	0.1	0.1	0.1	0.1	0.1	0.1	1
ヒドキシ (重合禁止剤)							
エステル化 EDTA (油溶性キレート剤)	0.01	0.5	5				
ベツトリアル (油溶性キレート剤)				0.05			
EDTA・2Na塩 (水溶性キレート剤)					0.01		
EDTA・4Na塩 (水溶性キレート剤)						0.01	
キレート剤の溶解状態	可 溶	可 溶	可 溶	可 溶	少し沈殿あり	沈殿あり	
安定性 (鉄粉) (hrs)	1000以上	500	200	1000以上	48	24	96
硬化速度 100 ° C × 10分	硬 化	硬 化	硬 化	硬 化	硬 化	硬 化	未硬化

注) エステル化 EDTA : エチレンジアミン 4 酢酸の 2 エチルヘキシルアルコールのエステル化物

EDTA : エチレンジアミン 4 酢酸

[0017] The dissolution state, the stability, and the cure rate of the chelating agent were measured about each combination sample of Table 1, and the result was shown in Table 1. Each test method is as follows.

[Test method]

- 1) The dissolution state of a chelating agent : it observed with the naked eye.
- 2) Stability : time until particle diameter mixes one weight section, and neglects the iron powder of the mesh 200 to a 40 \*\* constant temperature bath for the promotion of a polymerization of each combination sample and it polymerizes with each combination sample 50 weight section in a glass bottle was measured.
- 3) Cure rate : it was checked whether 5 ml was neglected for 10 minutes at 100 \*\* for the test tube, and each combination sample had hardened each combination sample in the test tube.

[0018] The measurement result shown in the above-mentioned table 1 shows that the combination samples 1-4 concerning this invention are superior to the comparison sample 3 which does not contain the comparison samples 1-2 and this which all use a water-soluble chelating agent about the dissolution state, the stability, and the cure rate of a chelating agent.

[0019]

[Effect of the Invention] Since the oil soluble chelating agent concerning this invention dissolves in acrylic ester (meta) in large quantities, compared with conventional 2 Na salt or 4 Na salt of ethylenediaminetetraacetic acid, the impregnating constituent of this invention containing this is excellent in the effect of preservation stability, and does not cause the fall of a cure rate.

[Translation done.]